

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Katsuhide MANABE et al.

Serial No.: 09/677,781

Filed: October 2, 2000

For: A METHOD FOR MANUFACTURING A GALLIUM NITRIDE GROUP
COMPOUND SEMICONDUCTOR

Honorable Commissioner of Patents
Washington, D.C. 20231
Box AF



Group Art Unit: 2812

Examiner: Mulpuri, S.

17/D

Payton

entered
Mr. Millan
RECEIVED
4/18/03
TECHNOLOGY CENTER 2800

AMENDMENT UNDER 37 C.F.R. § 1.116

Sir:

In response to the Final Office Action dated October 15, 2002, please amend the
above-identified application as follows:

IN THE CLAIMS:

Please amend the claims to read as follows:

53. (Twice Amended) A method for producing a gallium nitride group compound
semiconductor by an organometallic compound vapor phase epitaxy, comprising:

setting a supplying ratio of silicon (Si) to gallium (Ga) in a reaction chamber during
said vapor phase epitaxy at a desired value in a range from greater than 0.1 to 3 as converted
values so as to control conductivity (1/resistivity) of said gallium nitride group compound
semiconductor at a desired value such that said conductivity increases with an increase of said
supplying ratio,

wherein said values 0.1 and 3 are the values obtained from gas flow rates, an amount
of said gallium (Ga) being converted into a flow rate of hydrogen bubbling trimethyl gallium
(TMG) at a temperature of -15°C and an amount of said silicon (Si) being converted into a
flow rate of a gas diluted to 0.86 ppm.

54. (Twice Amended) A method for producing a gallium nitride group compound